Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Design of a hohlraum-driven exploding pusher capsule experiment for NIF neutron diagnostic calibration[1] L. BERZAK HOPKINS, D. CALLAHAN, L. DIVOL, S. LE PAPE, N. MEEZAN, Lawrence Livermore National Laboratory, L. MASSE, CEA — Neutron diagnostics are a critical component of the National Ignition Facility and measure key parameters of capsule performance such as neutron yield, ion temperature, neutron bang time, and down scattered ratio. Therefore, accurate calibration of these diagnostics is essential. Such calibration requires high DT yield (greater than 1.e14) with low ρR as well as a symmetric implosion – an implosion with small non-radial velocities remaining in the fuel during the burn phase. In order to meet these requirements, we have used the radiation-hydrodynamics code HYDRA to design an indirect-drive exploding pusher capsule experiment, driven with a 2.5 ns pulse in a vacuum hohlraum. Features of this design will be presented as well as its feasibility for symmetry control.

[1]Prepared by LLNL under Contract DE-AC52-07NA27344.

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Date submitted: 12 Jul 2012 Electronic form version 1.4